National Aeronautics and Space Administration

Roundup

Lyndon B. Johnson Space Center

May 2009

Our evolving mission

Guest Column

NASA/BILL INGALLS sts119-s-005

On the cover:

A nearly full moon sets as the Space Shuttle *Discovery* sits atop Launch Pad 39A at the Kennedy Space Center in Cape Canaveral, Fla., on March 11.

NASA/GEESEMAN jsc2009e060664

Photo of the month:

A breathtaking view of the STS-119 launch on March 15, as seen from John's Island, Vero Beach, Fla.

NASA/PHOTO JSC2005E27102

Bobby Watkins
JSC Chief of Staff

Although we are busy working hard on a multitude of mission activities, I wanted to dedicate time in this column to the importance of hurricane planning. Many of us in the Johnson Space Center community are still dealing with the effects of Ike; however, I think we all learned that the safety of our families, facilities and personnel is greatly improved with proper planning and information. To that end, I felt it important to touch on some of the center's post-Ike activities that will help us better prepare for the 2009 hurricane season.

Since Hurricane Ike's landfall in September, our center director has solicited feedback from senior staff, the JSC Joint Leadership Team and center employees on what we did right (what to repeat) and what did not work so well (where to improve). From the feedback sessions, over 200 comments were collected. After careful review, all of the comments seemed to fit into six different themes: employee direction and accountability; center timeline for closure and reopening; communications; infrastructure (both facilities and Information Technology); recovery; and knowledge sharing. A small group of JSC senior staff teamed up to address each of these areas and have been working hard since last year.

Over the next few weeks, the results of this team's efforts will be forthcoming. These include:

- Our Human Resources Office will be publishing an improved employee and supervisory accountability procedure and a new tool to ensure accurate and timely accountability of all our employees, civil servant and contractor.
- Center Operations has been developing an integrated timeline to allow for an easier understanding of needed center shut-down activities, including both facilities and Information Technology.
- Center Operations developed a more robust centerwide integrated hurricane drill, executed in April.
- The External Relations Office is busy exploring new ways to disseminate information quickly and accurately after a natural disaster.
- The Information Resources Directorate has been working diligently with the agency's NOMAD team to ensure e-mail and BlackBerry communications remain available for all employees.
- The Chief Knowledge Officer is ensuring that centerwide lessons learned and best practices are captured into a center-level report that will be published in April so that our hard-earned experiences are not lost.

Since we are not the only center that has experienced hurricanes, I led a multicenter Safety and Knowledge Sharing Forum at Kennedy Space Center (KSC) in February. Over 60 people from JSC, KSC, Stennis Space Center, Michoud Assembly Facility, the NASA Shared Services Center, Langley Research Center and Headquarters Emergency Operations Center were there to share each of their hard-learned lessons in dealing with hurricanes or tropical storms. We all shared in our collective knowledge, and JSC was able to bring back many good ideas, those "aha!" moments, that can help strengthen our ability to prepare for a natural disaster.

On the personal side, now is a good time to plan, with your family, a Personal Plan of Action, including the decision criteria for whether to evacuate or stay. Several of us learned that looking for a generator should happen now, not when the storm is in the Gulf of Mexico. It is always a good idea to reassess, each year, how your situation may have changed (got a new pet?) and how your Personal Plan of Action needs to be modified. The only predictable thing about a hurricane is how unpredictable they are—so plan now, be flexible and well-prepared when the time comes.

Last, do you have any colleagues that are new to the area and have no hurricane experience? We got some valuable feedback that many new team members did not know how to prepare last year. Please consider sharing with new colleagues before hurricane season on how to prepare, where to find information and how to recover. Your experience could save a life—or ensure the safety of others.

Sharing **hurricane** stories among our centers

By Jeanie Engle

Katrina, Rita, Gustav, Isobel, Wilma, Charlie, Frances, Jeanne and Ike are just a few hurricanes and tropical storms in the past six years that affected Langley Research Center (LaRC), Kennedy Space Center (KSC), Michoud Assembly Facility, Stennis Space Center, the NASA Shared Services Center and Johnson Space Center. From our own recent experiences at JSC, an idea was born to bring together NASA centers that have had hurricane or tropical storm damage within the past few years to collectively share and exchange not only hard-earned lessons learned, but also those nuggets of best practices.

NASA/PHOTO 2867628_057

KSC Chief of Staff Joe Dowdy and JSC Chief of Staff Bobby Watkins.

> *"Hurricanes are a part of our life here on the space coast of Florida, and this forum proved to be an outstanding opportunity to share experiences so that we are better prepared to meet the challenges that will most assuredly come in the future."*
>
> *– KSC Chief of Staff Joe Dowdy*

JSC Chief of Staff Bobby Watkins led the team to coordinate among the different centers a multicenter Safety and Knowledge Sharing Forum. The goals were very simple: share, collaborate and learn. Over two days in February at KSC, 60 people from these six sites came together to describe their own events, the hard road to recovery and forward planning to initiate before the next time. We all know that living where we do … there will be a next time.

Themes that had emerged after Hurricane Ike were used to format the discussions. These themes centered on communications, recovery, timelines, infrastructure, employee direction and accountability. Although each storm brings its own unique set of problems, there were common elements throughout each story shared. LRC, for example, provided a simple chart for employees to use in deciding whether to stay in place or evacuate. We called it the "Candyland" chart since it reminded us of the game. Look for it to be updated with Texas and JSC-specific information and made available in June.

> *"The hurricane forum that was conceived by Bobby Watkins at JSC and hosted by the Kennedy Space Center in February was an outstanding example of how well the NASA team pulls together to take care of one another. For the first time, Johnson, Stennis, Kennedy, Langley and Headquarters personnel met to share lessons learned from recent storms and better prepare for the hurricane season in front of us. Each center contributed valuable information that will help us take better care of our workforce and protect our critical national assets."*
>
> *– KSC Director Bob Cabana*

There were many "aha" moments during the course of the discussions—great ideas from our sister centers that we captured for future implementation at JSC. Among those was the determination that we need to provide "Hurricane 101" sessions for new employees or employees returning to this area after a long absence. Other great ideas were shared, such as making cafeterias a priority for reopening to help service recovery personnel. Community infrastructure is a critical factor to reopening, as well as knowing what capabilities exist at each center that can be shared in an emergency, and many more.

The most important part of the knowledge-sharing forum was the ability to make networks among center personnel—finding out who will be available at the other end of a phone call when help is needed. As we move forward with publication of the Center Hurricane Ike Lessons Learned Report, we will also be publishing the briefings and results of this two-day forum.

NASA/PHOTO

Employees agencywide capture key lessons learned during the sharing forum.

Taking a look at NASA's Commercial Crew and Cargo Program

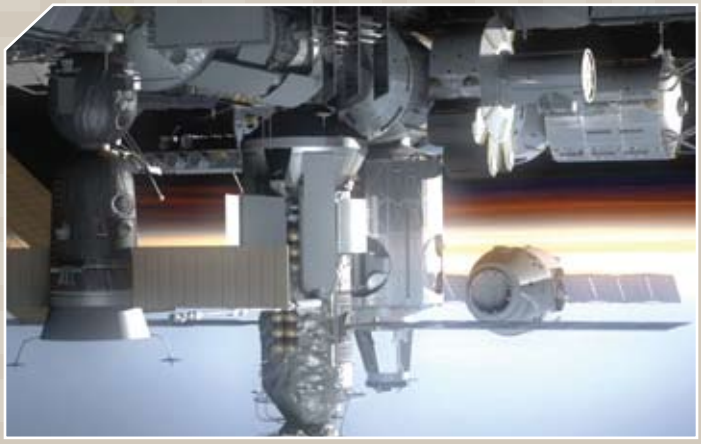
By Valin Thorn

With Neil Armstrong's first steps on the lunar surface, the first reusable spacecraft—the space shuttle, one of the most complex international engineering projects of this era—the International Space Station, NASA has been the pathfinder for human space exploration for more than 50 years.

NASA is now developing advanced space exploration vehicles and technologies as it moves forward with the Constellation Program and the return to the moon and on to Mars.

Perhaps the greatest obstacle to the exploration and utilization of our solar system is the high cost of space transportation. To date, no government or private effort has resulted in a solution to this problem. Once a solution is found and is commercially viable, low-cost space transportation will be transformative to the world's economy.

NASA has developed an experimental program that is serving as a catalyst for new ideas, new technologies and a new way of doing business by engaging the innovation, imagination and drive of American industry.



NASA/PHOTO

An artist's depiction of a SpaceX Dragon Spacecraft approaching the International Space Station.

Managed by NASA's Commercial Crew and Cargo Program (C3PO), the program is also known as Commercial Orbital Transportation Services (COTS). The C3PO COTS Program will enable the creation of new, cost-effective commercial space transportation systems and demonstrate capabilities to provide cost-effective transportation services to orbit for cargo and, eventually, crew.

The C3PO COTS Program is helping fuel the private sector's imagination and drive with technical support from NASA's nearly 50 years of human spaceflight. And, after industry competitions for the highest level of NASA assistance, C3PO COTS is granting a total of $500 million dollars over four years to two companies—Orbital Sciences and SpaceX.

The C3PO COTS Program has unique government and industry partnerships, rather than typical government cost-plus prime contracts. NASA did not dictate design solutions. Instead, overall performance objectives were established with the station's needs serving as a representative destination. The COTS partners had maximum latitude to freely innovate and optimize their launch vehicle and spacecraft designs and operations.

"We had the need. We had some seed money. We had the interest and we had the technical expertise," said C3PO Manager Alan Lindenmoyer. "And you put that together with some very capable suppliers and providers, then we had the basis for what could be a very successful program."

Orbital

Just about 100 miles up the coast from where the Wright brothers first flew their airplane at Kitty Ha wk, Orbital Sciences is planning to launch their new COTS system at the Mid-Atlantic Regional Spaceport at NASA's Wallops Flight Facility in Virginia.

Orbital's COTS system design for cost-effective, reliable space transportation is based on the new Taurus II rocket with a LOX/Kerosene first stage, powered by two Aerojet AJ-26 engines. The Taurus II second stage is ATK's Castor 30 solid-propellant motor, derived from their flight-proven Castor 120. The spacecraft system bus is derived from Orbital's heritage DAWN and STAR spacecraft projects. The space cargo carriers are derived from station cargo carriers.

Orbital's COTS system will be capable of delivering cargo to the station, and a planned demonstration flight is scheduled for late 2010.

SpaceX

At Cape Canaveral, within sight of where every NASA human spaceflight mission has launched, SpaceX is planning to launch their new COTS system.

SpaceX is well into the development of two new launch vehicles and has already established an extensive launch manifest. SpaceX is based on the philosophy that simplicity, low cost and reliability can go hand in hand. By eliminating the traditional layers of management internally and subcontractors externally, SpaceX reduces costs while speeding decision-making and delivery. Likewise, by keeping the vast majority of manufacturing in house, SpaceX reduces costs and keeps tighter control of quality, ensuring a tight feedback loop

SpaceX/PHOTO

SpaceX Falcon 9 Rocket on Pad 40 at Cape Canaveral, Fla.

SpaceX/PHOTO

An artist's concept of the future of U.S. commercial crew space transportation.

between the design and manufacturing teams.

Drawing upon a rich history of prior launch vehicle and engine programs, SpaceX is developing the Dragon cargo and crew capsule and the Falcon family of rockets from the ground up, including main and upper stage engines, the cryogenic tank structure, avionics, guidance and control software and ground support equipment.

SpaceX launch vehicles and spacecraft are designed for refurbishment and reuse, which, if successful, will make them the world's first fully reusable launch vehicles. The Dragon cargo and crew capsule in development for COTS will revolutionize access to space by providing efficient and reliable transportation of space cargo and, eventually, crew to the station and other low-Earth orbit destinations.

SpaceX's COTS cargo transportation demonstration flights will begin in 2009 and conclude with a third demonstration to the station in 2010.

Once the COTS partners have made progress developing cargo transport capabilities and funding is approved, C3PO will begin the COTS crew transportation phase of the program.

From Lewis and Clark to the commercial aviation industry, government has often provided the initial impetus for the exploration and development of new frontiers, followed by rapid commercial development and expansion once the trail is blazed. NASA's COTS Program continues that tradition.

As NASA's Constellation Program continues to push the boundaries of the space frontier, creating partnerships with American industry and taking essential steps toward a more routine access to space will transform our world.

A moment in space history

Skylab was a manned U.S. space station launched into orbit in May 1973. It had been adapted from the third stage of a Saturn V rocket vehicle. Three successive crews of three astronauts each occupied Skylab. The longest mission, which ended in February 1974, lasted almost three months.

NASA/PHOTO S73-27096

May 14, 1973: Skylab 1 launched

The first Skylab mission launched and immediately developed technical problems due to vibrations during liftoff. A critical meteoroid shield ripped off, taking one of the craft's two solar panels with it. A piece of the shield wrapped around the other panel and kept it from deploying.

Skylab was maneuvered so its Apollo Telescope Mount solar panels faced the Sun to provide as much electricity as possible. Because of the loss of the meteoroid shield, however, this positioning caused workshop temperatures to riase to 126 degrees F. The launch of Skylab 2 was postponed while NASA engineers, in an intensive 10-day period, developed procedures and trained the crew to make the workshop habitable. At the same time, engineers "rolled" Skylab to lower the temperature of the workshop.

NASA/PHOTO S73-20236

NASA/PHOTO S73-26849

May 25, 1973: Skylab 2 launched

Crew: Charles Conrad Jr., Paul J. Weitz and Joseph P. Kerwin. Duration: 28 days, 50 minutes.

The first Skylab crew rendezvoused with Skylab on the fifth orbit. Substantial repairs were made, including deployment of a parasol sunshade that cooled the inside temperatures to 75 degrees F. By June 4, the workshop was in full operation. In orbit, the crew conducted solar astronomy and Earth resources experiments, medical studies and five student experiments. The mission completed 404 orbits and 392 experiment hours, with three spacewalks totaling six hours, 20 minutes.

Mission Operations Directorate *Evolving for*

Since Project Mercury, the Mission Operations Directorate (MOD) has had great success in developing, planning, training and executing human spaceflight missions. But even being the best leaves room for improvement.

With missions to the moon and Mars in support of the Constellation Program on the horizon, MOD is working to evolve to an even better organization.

"We didn't just make this stuff up," Paul Hill, director of MOD, said. "We went out and benchmarked across numerous industries in order to adopt best practices and all that contributed to us being on this path."

The new path for MOD includes upgrades to all of its systems, including training and operations for the International Space Station and Constellation, as well as facility upgrades. Updates have already been made to the Mission Control Center System (MCCS).

"We are trying to get out of government-unique solutions as much as possible and get to commodity-based hardware and software," Hill said. "In the Mission Control Center, we are already down that path with the Mission Control Center Workstation, Server and Operating System Replacement (MWSOR) project."

The MWSOR project was started in 2003 to replace expensive workstations with equipment that gives greater flexibility.

In addition to new workstations, the entire MCCS network was replaced in 2004 with the Internal Data Distribution Subsystem (IDDS). The IDDS consists of off-the-shelf network solutions that allow support of multiple missions, simulations and tests simultaneously from shared resources.

The MCCS upgrades don't end there. New space station front-end processors, essential for receiving telemetry and trajectory data and commanding the shuttle and station, have been operational for more than a year.

The long-lived Digital Voice Intercommunication System is also getting an overhaul. New voice switch and conference-loop technology is scheduled to be operational this spring.

Perhaps the most visible example of innovation lies in the Operations Technology Facility (OTF). The OTF is working to set the new standard for mission operations at Johnson Space Center with a new concept called MCCx.

"MCCx represents a series of solutions that the MCCS team is evaluating for the way we operate for future inclusion in the design," said Troy LeBlanc, Systems Engineering Branch chief for the MOD Facilities Division.

The OTF team looked at technologies from a series of benchmarking activities at industry facilities to integrate into MCCx. One of those significant technologies is a virtual client server with a data center that generates telemetry displays users can view remotely.

This gives flight controllers greater flexibility to work from home or the office, because "all you need to access MCCx systems is a regular personal computer or a laptop," said Eric Wolfer, chief of the Operations and Information Technology Office for MOD.

In addition to providing remote access to Mission Control Center data, the MCCx team is looking to move all of the separate, dedicated data, voice, video, audio and phone system services to common Internet Protocol systems.

Another project that is working

NASA/PHOTO JSC2008E56860

Chris Edelen (left), flight director, and Jay Marshcke, spacecraft communicator, in Flight Control Room 1 during the Expedition 17 mission.

NASA/PHOTO S69-39817

Interior view of the Mission Operations Control Room in the Mission Control Center, Building 30, during the Apollo 11 lunar spacewalk.

r spaceflight of the future

By Sean Wilson

NASA/HARNETT JSC2009E061748

Jennifer Heiman demonstrates MCCx capabilities, which can be securely accessed from office and home.

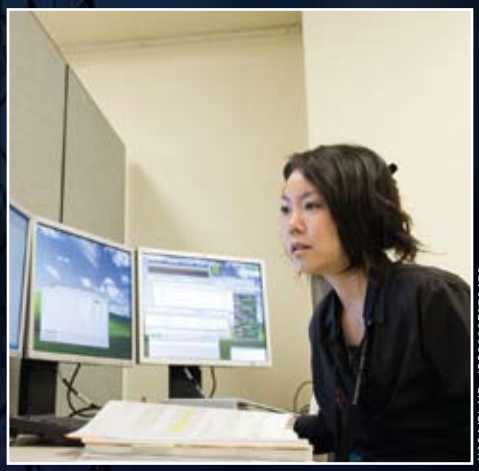
to make remote access to data a reality is the Mission Operations Reconfiguration System (MORS). MORS is the next-generation system for managing and automating the configuration data and client software for Constellation operations.

"We are trying to design a system that allows flight controllers to do their jobs at their desks," MORS Project Manager Regina Blue said.

Innovations to the MCCS don't end with the infrastructure. Changes in flight controller training and certification have been under way since 2007, with a new process called "top gun" training.

According to Rob Banfield, Expedition Vehicle Division chief, the change was about more than just streamlining processes.

"Today on console we've got our most experienced people working weekends and nights," Banfield said. "That's pretty hard on their families. So we'll train new operators in 12 months, certify and put them on console for quiescent operations that are typical of nights and weekends during long-duration spaceflight like International Space Station."



NASA/BLAIR JSC2009E070472

Janice Lee enjoys new layout of the MCCx console in the ISIS training facility.

Hill puts the restructuring into perspective. "As new operators start gaining expertise, we pull them out of routine operations to become instructors and to support more dynamic phases of flight and problem resolution."

In 2008, MOD began training operators in groups similar to new astronaut classes rather than individually. The MCC will be staffed with operators from the first class this fall.

With new training requirements comes new training facility needs. MOD has taken steps to bring simulators into the 21st century with the development of the International Space Station Systems Integrated Simulation (ISIS).

"ISIS combines models that simulate the entire International Space Station with MCCx technologies that provide the flight controller interface to create a new part-task trainer," LeBlanc said.

The lessons learned from ISIS, coupled with benchmarking from industry, are shaping the development of the Constellation training facility.

MOD has laid the groundwork for a world-class operation for the next generation of Mission Control. A lot of changes are under way; however, according to Hill, some things will never change.

"The things that aren't going to change are what our mission is, our basic approach to the mission and how we provide bullet-proof mission planning, preparation and execution for Mission Control," Hill said. "But we don't intend to deliver it the same way [we] delivered in the '60s or in the '90s."

"You can bet MOD still expects our people to be steely-eyed missile men and women," Hill said. "We also expect to keep challenging the way we do business to stay the best of the best."

NASA Desert Research and Technology Studies Team **eyes White Sands Test Facility**

By Cheerie R. Patneaude
NASA's White Sands Test Facility

Twelve team members of the Desert Research and Technology Studies (D-RATS) visited NASA White Sands Test Facility (WSTF) to evaluate the facility capabilities and local terrain in support of future NASA agency planned planetary analog testing activities.

The team scouted several locations in the vicinity of WSTF, including the historic Love Ranch area, two volcanic craters and associated lava flow areas southwest of WSTF (Kilbourne Hole and Aden Crater), the White Sands Space Harbor (WSSH), White Sands dune areas northeast of WSSH and, finally, a more recent lava flow area north of WSSH. Operated by WSTF, WSSH is the primary training area for shuttle pilots flying practice approaches and landings in the Shuttle Training Aircraft and T-38 chase aircraft. This restricted, controlled airspace offers year-round flying weather.

WSSH is located at the northern end of the Chihuahuan Desert and lies in a mountain-ringed valley called the Tularosa Basin. Rising from the middle of this basin is one of the world's great natural wonders—the white sands of New Mexico, where dunes of gypsum sand have engulfed 275 square miles of desert and are part of the world's largest gypsum dune field.

The D-RATS team scouted the WSTF area to record suitability of the terrain and facility support capabilities for field tests of the Lunar Electric Rover chassis, Small Pressurized Rover cabin mockup, mockup suits, All-Terrain Hex-Legged Extra-Terrestrial Explorer (ATHLETE), Logistics Carrier Mockup and K10 rovers.

Some of the D-RATS team members were provided with a helicopter flight in White Sands Missile Range aircraft to cover the different areas of interest, while others drove to the different areas for a more detailed ground inspection. The D-RATS team will analyze the terrain and the support capability that WSTF can provide to see if there is a mutual benefit to conducting surface analog testing in the WSTF vicinity.

WSTF, a part of Johnson Space Center, is a remote, self-contained site located on the western slope of the San Augustin Mountains, situated on the very edge of the White Sands Missile Range near Las Cruces, N.M. The facility conducts rocket engine tests, oxygen materials tests, hypervelocity impact tests, refurbishes flight hardware and conducts a variety of other hazardous tests for NASA.

Learn more about WSTF's unique capabilities by visiting:
http://www.nasa.gov/centers/wstf/home/index.html

NASA/PHOTO WSTF 0209E01757

Dunes showing an untouched façade.

NASA/PHOTO WSTF0209E01481

The rim of Aden Crater.

NASA/PHOTO WSTF0209E01480

Aden Crater, southwest of WSTF.

NASA/PHOTO WSTF0209E1778

Movie set in the dune field near WSSH.

Information Resources Directorate

Partnering with the customer

By Jennifer Mason

Ask anyone to name one of their most important productivity tools, and chances are they'll say their computer. We take it for granted that our computers will work efficiently without breaking down and adapt quickly to changing technology. So how do we make sure the tools we use to manage data, provide information and communicate with one another really do meet our requirements?

NASA/PHOTO JSC2005-00017

IRD Television operations in Building 8.

To address that question, the Information Resources Directorate (IRD) has gone through a two-year self-improvement program.

"The changes in IRD are forward-thinking. I wanted to create an environment where employees can be innovative and also better meet organizational needs for Information Technology (IT)," said IRD Director Larry Sweet.

Inspired by customer feedback and changes at NASA Headquarters, the new IRD organization was unveiled in December. IRD went from four divisions to six offices to align with Headquarters and reflect best practices. In addition to new end-user service offices, IRD now has a Business Management and Policy Office that focuses on implementation of IT policies, improving business practices and coordinating IT resource planning across the center. IRD also has a new Project Management and Technical Integration Office that provides improved integration of projects across IRD.

Some new roles were created to streamline partnering with customers. Information Technology Business Managers (ITMs) have been implemented for each Johnson Space Center directorate and at White Sands Test Facility. ITMs work with senior leadership to take a strategic look at the IT needs of an organization, assess resources and plan for future needs.

Also new is the Chief Technology Officer, or CTO, James McClellan. McClellan is responsible for developing technology strategies that ensure JSC programs and directorates have the IT tools and support to meet their needs.

The changes aren't just in the organization's structure—there have been cultural changes as well. IRD's vision, which hadn't been revisited in several years, was updated. The new vision of creative evolution is adaptable and customer-focused. IRD wants to work closely with all stakeholders to be a pioneering and responsive administrator of technologies and services.

To keep in line with their new vision, IRD now rewards the right kind of behavior to support it.

"One of my favorite ways to demonstrate the new philosophy is to give out the new IRD Director's Award," Sweet said, "We've given out four awards already."

The new award is given to employees nominated by their peers for customer-focused behavior that personifies the IRD vision.

While organization and cultural changes were under way, IRD made a significant change in how it communicates with customers with a Web site overhaul.

In addition, IRD updated their customer satisfaction surveys to better understand their customers' needs. For the past few years, a survey with almost 100 questions about all of IRD's services was sent out annually. The lengthiness of the survey prompted a decline in participation, so recently IRD cut the number of questions in half and concentrated on centerwide services. Services used by a smaller set of customers will collect feedback in other ways.

An updated structure and revised philosophy will benefit both IRD and the organization's customers across JSC and White Sands. Partnering with customers will help to streamline IT needs across all organizations.

According to Sweet, "It's important to me that we partner with our customers so we can truly understand their needs and transform those into IT solutions."

NASA/PHOTO jsc2005e43039

Todd Munson in the Building 8 Photo Lab works with the Oxberry Cinescan 6400.

Spotlight Mike Gentry

Gentry is a librarian/researcher from the JIMMS contract in the Media Resource Center, a satellite facility of the Public Affairs Office. He came here in the last part of July 1969 on a 120-day contract to help write captions for photos produced by and for the historic Apollo 11 lunar landing mission, and has served NASA ever since.

Mike Gentry shares his passion for NASA on one of the final International Space Station trailer outreach trips in San Augustine, Texas, in 2005.

NASA/PHOTO LARRY FRIEND

Q: Coolest part of your job?
A: Seeing the imagery that supports the American space effort and that of all its partners, including the fine ground-based work of Johnson Space Center still photographers, Mark, Robert, James, William, Lauren, David, Regan, Devin and all their predecessors.

Q: Favorite hobbies or interesting things you do away from the office?
A: I like to fish, watch movies, play trivia and travel when I can, especially going back over paths previously traveled, to best recall old memories and see new changes. I also like sporting events—in person and on TV/radio—and keeping tropical fish.

Q: What did you want to grow up to be when you were a child?
A: I always wanted to either teach or work in the field of ichthyology. I always wished I had had the abilities and senses to fly airplanes or play the piano. My close friends laugh at the airplanes and piano aspirations, so it must have been a pipe dream.

Q: What would people be surprised to know about you?
A: That I am a direct descendant of Zachary Taylor, the 12th president of the United States.

Q: What is your favorite quote or motto?
A: "A successful man is one who can lay a firm foundation with the bricks others have thrown at him." – David Brinkley

Q: Favorite food and sport?
A: Don't even have to think about—green grape pie and baseball. In second place are tangerines and any kind of racing.

Q: Last good book you read?
A: "Remembering President Zachary Taylor" by Dave Mandl.

Q: Who are your heroes?
A: Deke Slayton exemplified the "Right Stuff." He wasn't at all full of himself, had great consideration for others and was the consummate professional. He had a dry sense of humor (I love most people who have a sense of humor, dry or otherwise). He never met a mountain head-on that he couldn't blow away like so much sand and move on. I admire the quality in people to overcome obstacles and obtain a degree of success greater than they may not have otherwise accomplished. I had a grandfather who had been a pro baseball player until he got hit in the head by a fastball and eventually lost over 50 percent of both his hearing and eyesight. He went on to build seven houses with minimal assistance from anyone else. Of course, all my grandparents and parents are heroes to me.

Q: What does JSC mean to you? What is your best memory at NASA or JSC?
A: JSC affords a ringside seat to the space program. Not just a free seat, but one that pays us. Can't ask for much more than that. I like the teamwork and realize how necessary the team concept is. Occasionally, when someone pays me a compliment about my work, I welcome the opportunity to mention and recognize my most immediate working colleagues: Jody, Kathy, Susan, Gloria, Adam and all my other Public Affairs Office and Information Resources Directorate associates who make the brigade concept work without spilling a drop of water, so to speak.

My favorite memory is watching (via TV on a giant screen in the Building 2 Auditorium) the Apollo 13 Command Module appear through the clouds, eased into sight and safety by three memorable parachutes—but, in truth, by the great NASA team who was convinced failure was not an option.

WANTED!

Do you know a JSC colleague or team that does something extraordinary on or off the job? Whether it's a unique skill, interesting work, special professional accomplishment, remarkable second career, hobby or volunteerism, your nominee(s) may deserve the spotlight!

The Roundup shines the light on one special person or team each month, chosen from a cross section of the JSC workforce. To suggest "Spotlight" candidates, send your nomination to the JSC Roundup Office mailbox at jsc-roundup@mail.nasa.gov. Please include contact information and a brief description of why your nominee(s) should be considered.

Center Scoop

BASKING IN ATTENTION

NASA's next-generation lunar rover visited hundreds of high school students at this year's For Inspiration and Recognition of Science and Technology Robotics Competition Lone Star Regional. Johnson Space Center's Lunar Electric Rover team gave public demonstrations of the rover's capabilities on March 27 at the George R. Brown Convention Center. JSC engineers also gave additional shows for the public the next day at Discovery Green Park in downtown Houston.

NASA/BOLDT jsc2009e063859

CREATING A SAFER WORK ENVIRONMENT

Computer use can cause many small injuries that get worse if not corrected right away.

Your furniture should be ergonomically designed so that you have no discomfort when working at your computer. Here are some general ergonomic recommendations:

1. Place your keyboard and monitor directly in front of you.
2. Adjust your chair to fit you and make sure it has firm back support.
3. Use soft wrist rests at the keyboard and mouse.
4. Place your monitor screen so you don't see any glare.
5. Secure your overhead hutch to the desk or table on which it sits.

To clean the monitor, spray cleaning solution onto a cloth, then wipe the monitor. JSC has had several small fires and electrical shorts from cleaners sprayed directly onto screens.
For additional information, see Chapter 5.5, "Ergonomics," in the JSC Safety and Health Handbook.

'400 YEARS OF THE TELESCOPE'

Emmy award-winning producer/writer Kris Koenig, along with a team from Interstellar Studios, visited the world's leading astronomers, cosmologists and observers to create "400 Years of the Telescope." The documentary journeys from 1609, when Galileo revealed humankind's place in its galaxy, to today's quest to discover new worlds in the infinite universe.

JSC team members viewed this documentary screening in the Teague Auditorium on April 14, in addition to seeing a presentation by Milt Heflin, lead flight director with STS-61, Hubble's first servicing mission. Special guests Dr. John Grunsfeld, mission specialist and lead spacewalker for Hubble's third servicing mission, and Patricia Gras, PBS host of "Smart Living" and "Latina Voices," were also on hand to speak with the audience.

NASA's next mission to Hubble, STS-125, is targeted for launch in mid May.

NASA/BOLDT jsc2009e083044

Dr. John Grunsfeld, mission specialist and lead spacewalker for STS-103, speaks of his lifelong interest in astronomy and the upcoming Hubble mission.

JSC Associate Director (Technical) Milt Heflin addresses the audience before the special screening of "400 Years of the Telescope."

NASA/BOLDT jsc2009e083050

Roundup

The Roundup is an official publication of the National Aeronautics and Space Administration, Johnson Space Center, Houston, Texas, and is published by the Public Affairs Office for all Space Center employees. The Roundup office is located at 2200 Space Park Drive, Rm. 220. The mail code is AP22. Visit our Web site at: http://www.jsc.nasa.gov/roundup/online/ For distribution questions or to suggest a story idea, send an e-mail to jsc-roundup@mail.nasa.gov.

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Coats in the Trenches

NASA/MARKOWITZ jsc2009e065274

NASA/MARKOWITZ jsc2009e065284

NASA/MARKOWITZ jsc2009e065286

On April 1, Johnson Space Center Director Mike Coats and members of senior staff toured the Receiving, Inspection and Test Facility (RITF) in Building 15. The RITF is part of the Safety and Mission Assurance organization and houses testing and training facilities for electrical and mechanical testing, chemical analysis and NASA standards training.